

Multinational Enterprise Structuring and Measurement in Economic Accounts

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Economic Accounting for MNEs: Measurement Challenges



- Transfer pricing
 - Lack of market transaction and arm's length price
 - Subject to regulatory scrutiny and enforcement (Marques & Pinho 2016)

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 - Measured activity may be incongruent with real economic activity

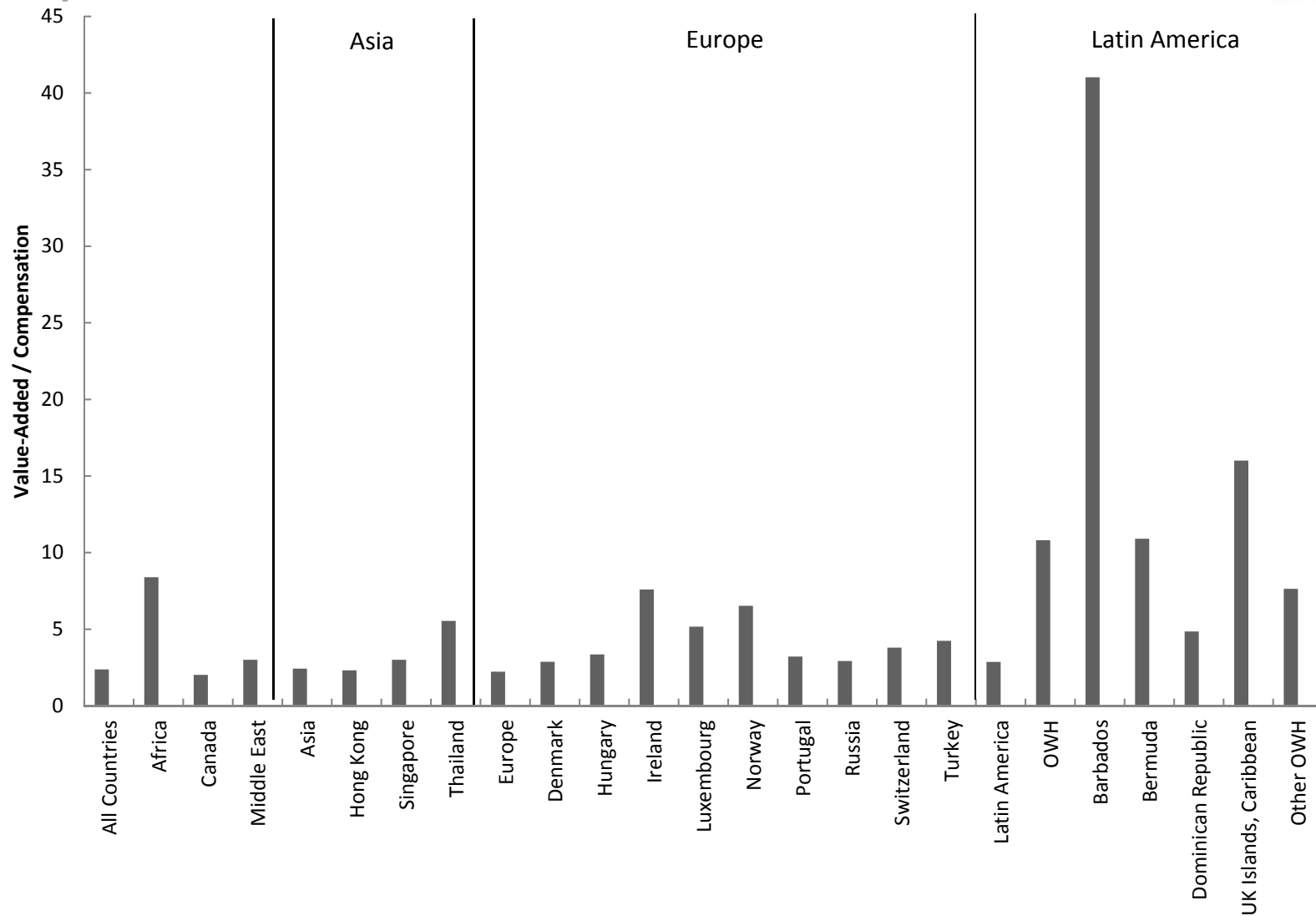
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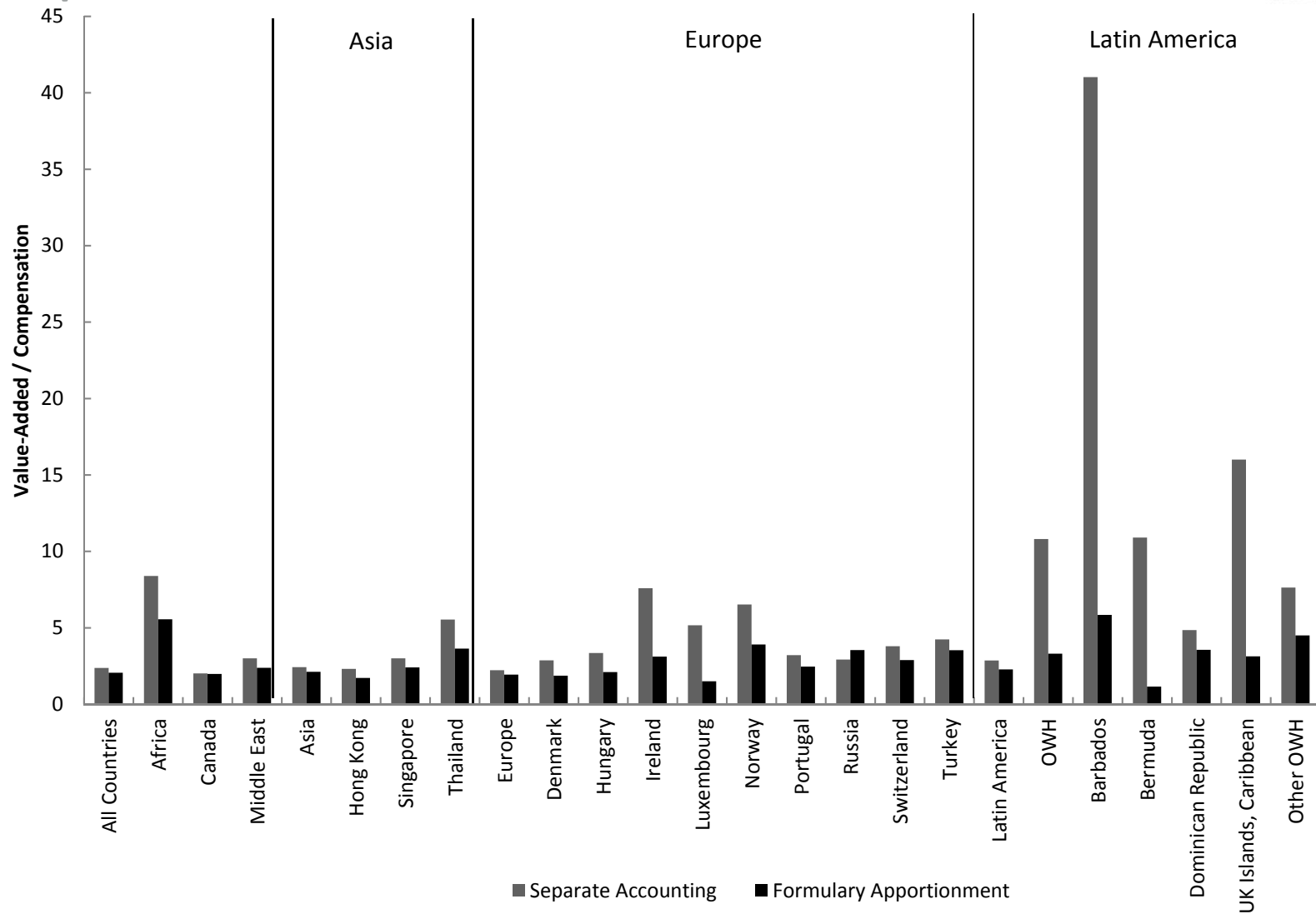
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 - Institutional units and residence in the *SNA* and *BPM*
 - Resident in same economy as parent → no separate institutional unit
 - Resident in economy other than parent → separate institutional unit

Economic Accounting for MNEs: Implications for U.S. AMNE Data



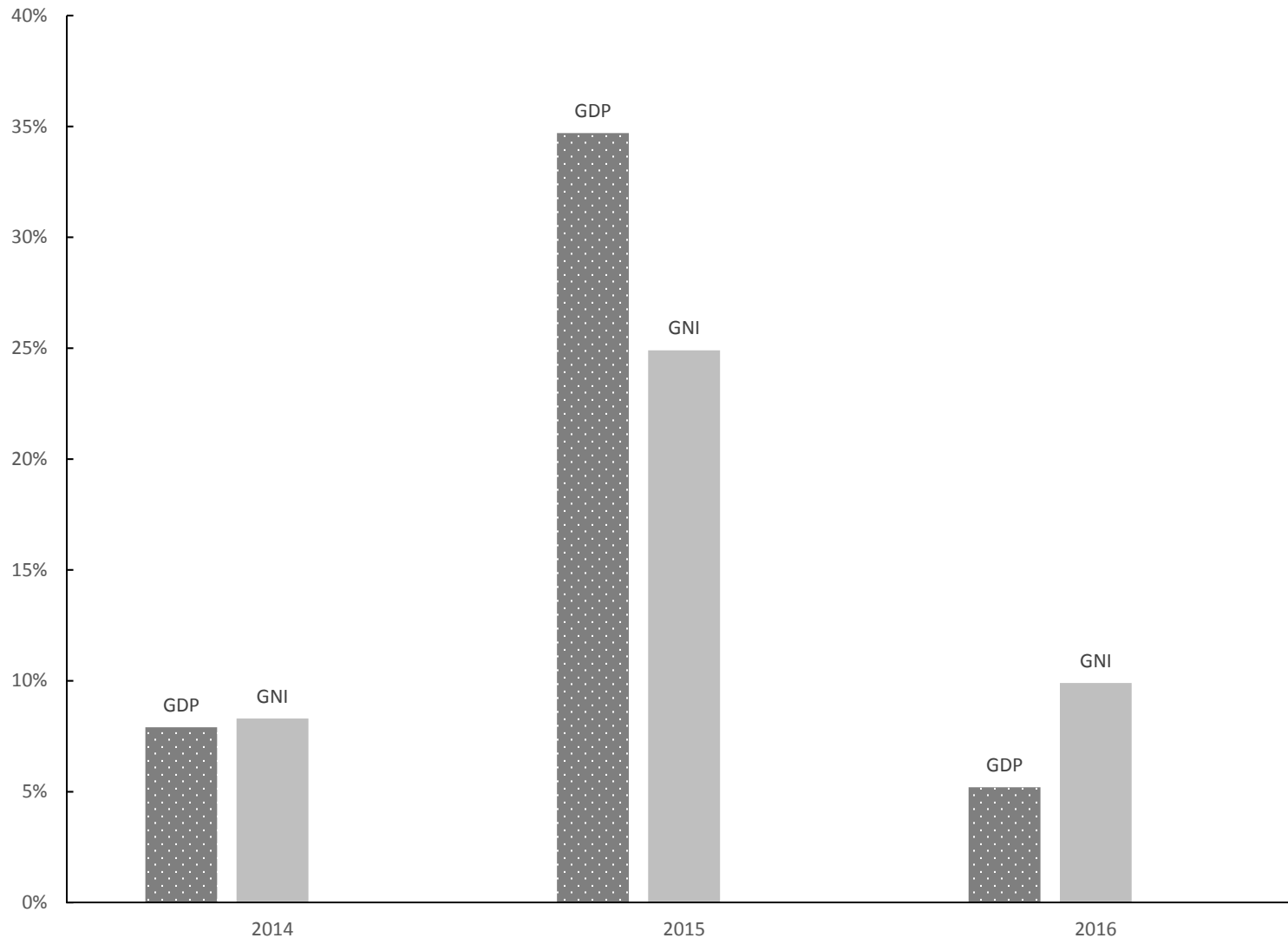
Source: Based on Lipsey (2010).

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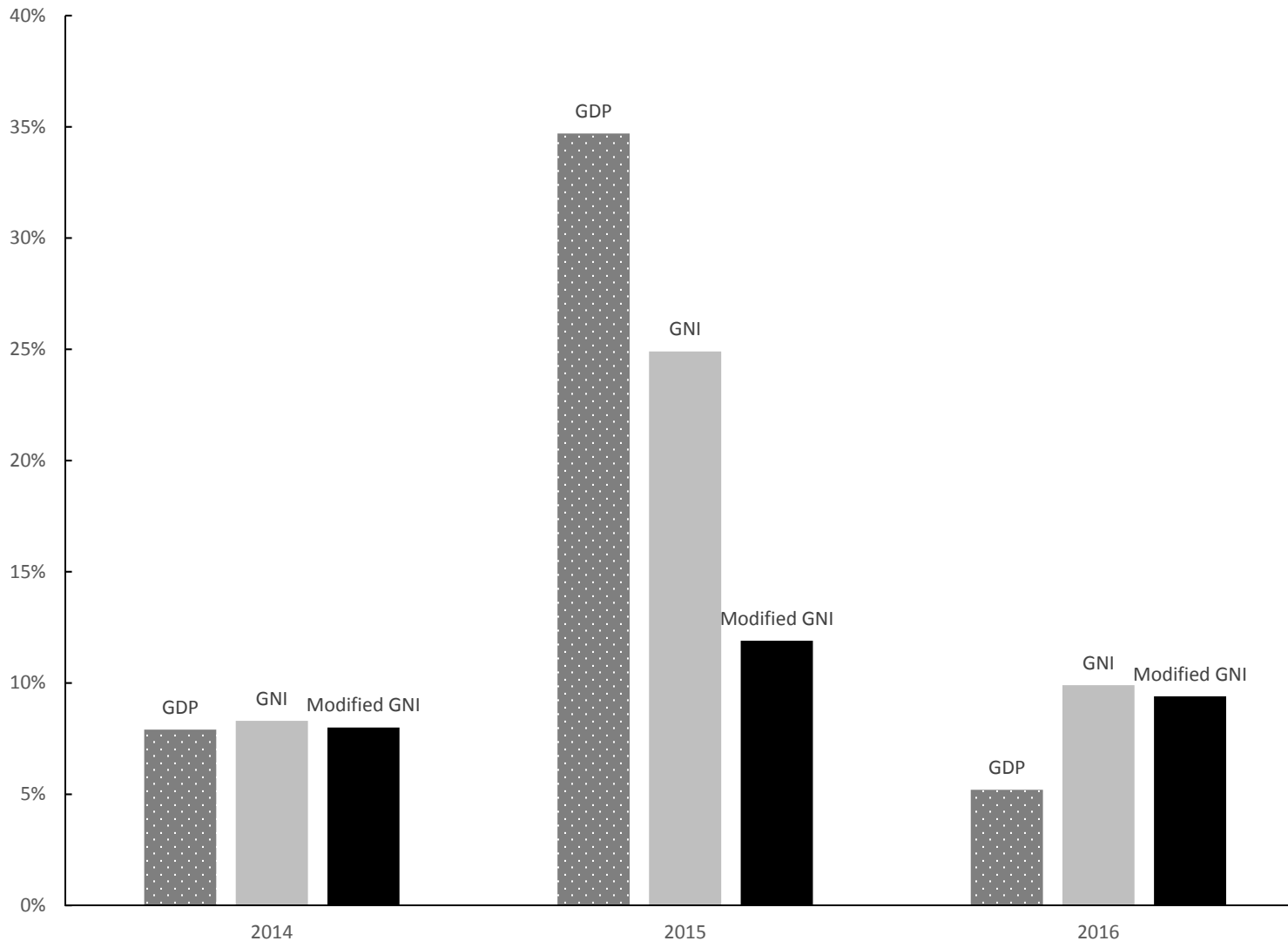
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Economic Accounting for MNEs: Implications for Irish Nominal Measures



Source: Central Statistics Office Ireland (Annex 1.1, National Income and Expenditure Annual Results, released July 24, 2017).

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Profit Shifting and Measurement: GMRR and BRR



- Guvenen, Mataloni, Rassier, Ruhl (2017) (GMRR)
 - Role of offshore profit shifting on measured U.S. productivity slowdown
 - Time series of adjusted business sector value-added: 1973-2014
 - Simple model attributes profit shifting to intangible capital

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- Bruner, Rassier, Ruhl (2018) (BRR)
 - Role of offshore profit shifting on key U.S. economic accounting measures
 - Single year of adjusted *SNA* and *BPM* measures: 2014
 - Same methodology and data as GMRR
 - Broader scope of adjusted measures (outside production account)
 - Potential implications for common analytic uses (beyond productivity)

Profit Shifting and Measurement: GMRR and BRR



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 - Legal ownership?
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Reallocation: Formulary Apportionment



- Apportionment weights for each entity within a U.S. MNE

$$\omega_n = \underbrace{\left(\frac{1}{2} \times \frac{w_i l_i}{\sum_i w_i l_i} \right)}_{\text{Compensation}} + \underbrace{\left(\frac{1}{2} \times \frac{p_i y_i}{\sum_i p_i y_i} \right)}_{\text{Unaffiliated Sales}} \quad \forall n \in m$$

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- Data

- Activities of Multinational Enterprise (AMNE) data
- Direct investment income data

Reallocation: Accounting Relationships



- Approaches to GDP

$$GDP = \underbrace{Q - Z}_{\text{Production Approach}} = \underbrace{C + I + X - M}_{\text{Expenditure Approach}} = \underbrace{W + T - S + O}_{\text{Income Approach}}$$

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- Operating surplus adjustment (+) → red
- Income on USDIA adjustment (-) → blue

Overview of Results



- GMRR Adjustments

- Add 1.5 pps to U.S. cumulative productivity growth for 1994-2014
- Matter most for U.S. R&D intensive industries for 2000-2008
 - Add 0.6% on average annually to R&D industries
 - Add 0.1% on average annual to non-R&D industries
- Are overwhelming attributable to low-tax countries
- Do not eliminate the productivity slowdown

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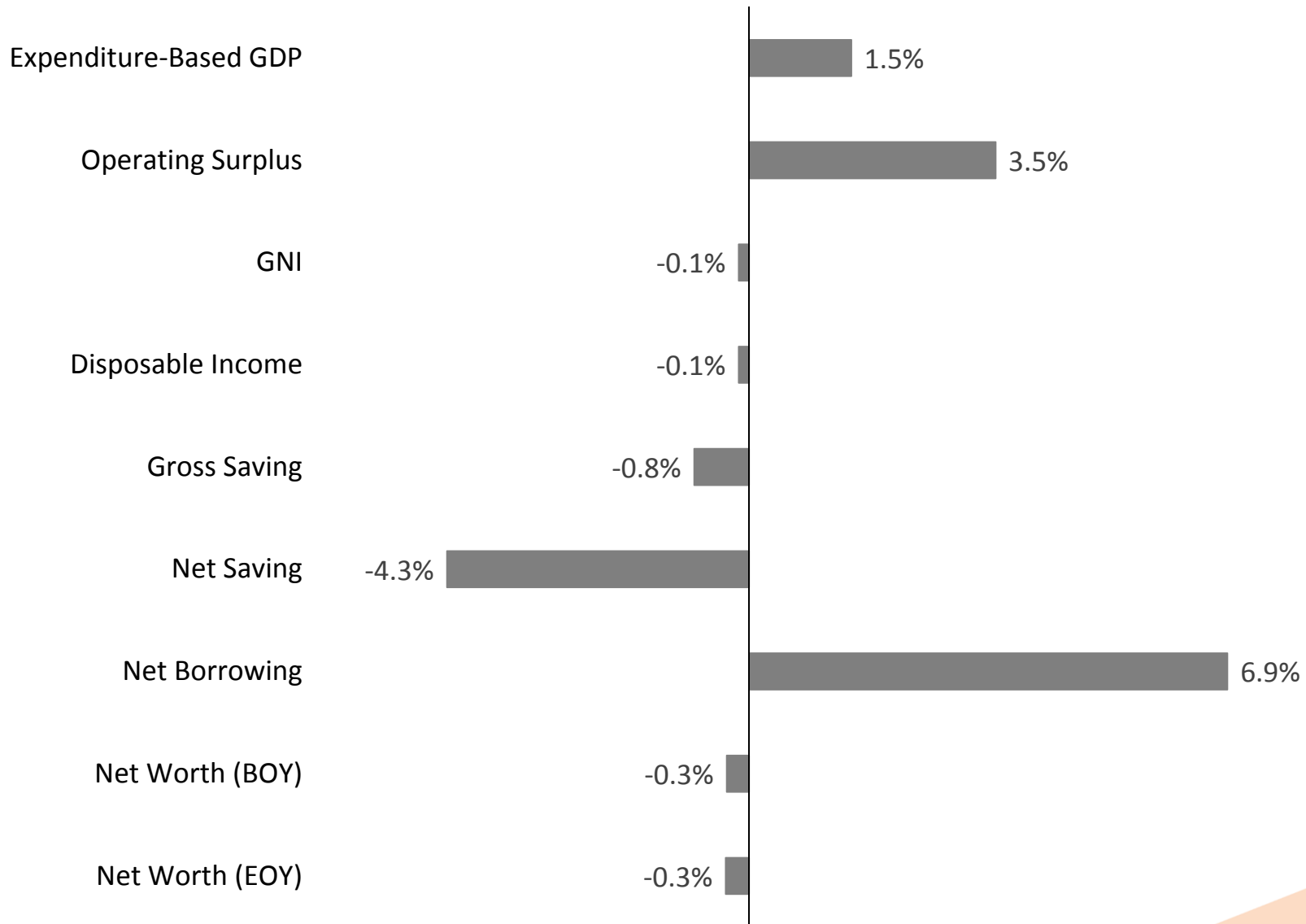
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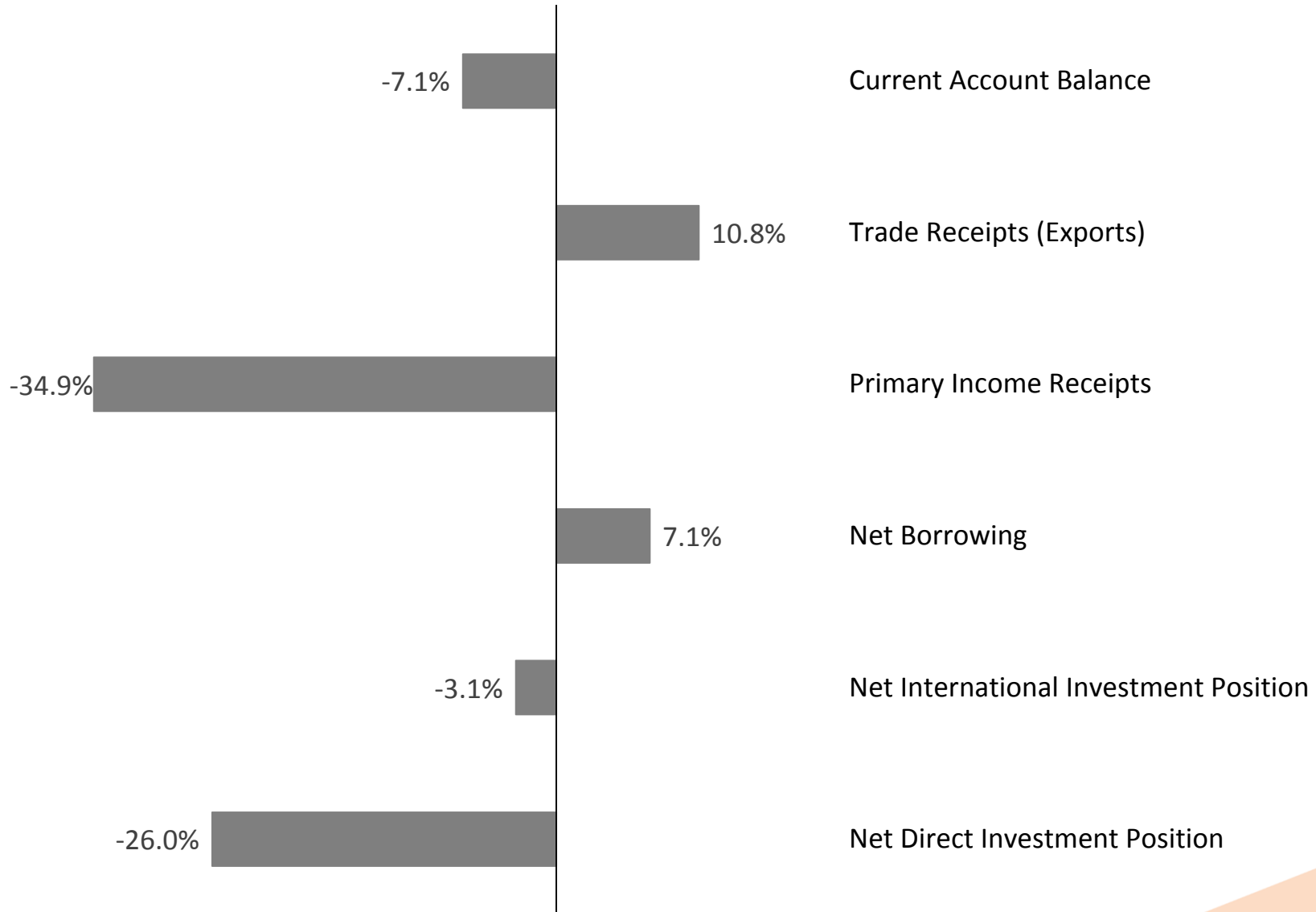
- BRR Adjustments

- Yield notable changes in key *SNA* and *BPM* measures
- May have significant implications for analytic uses
 - Labor share of income
 - Return on USDIA
 - External balances

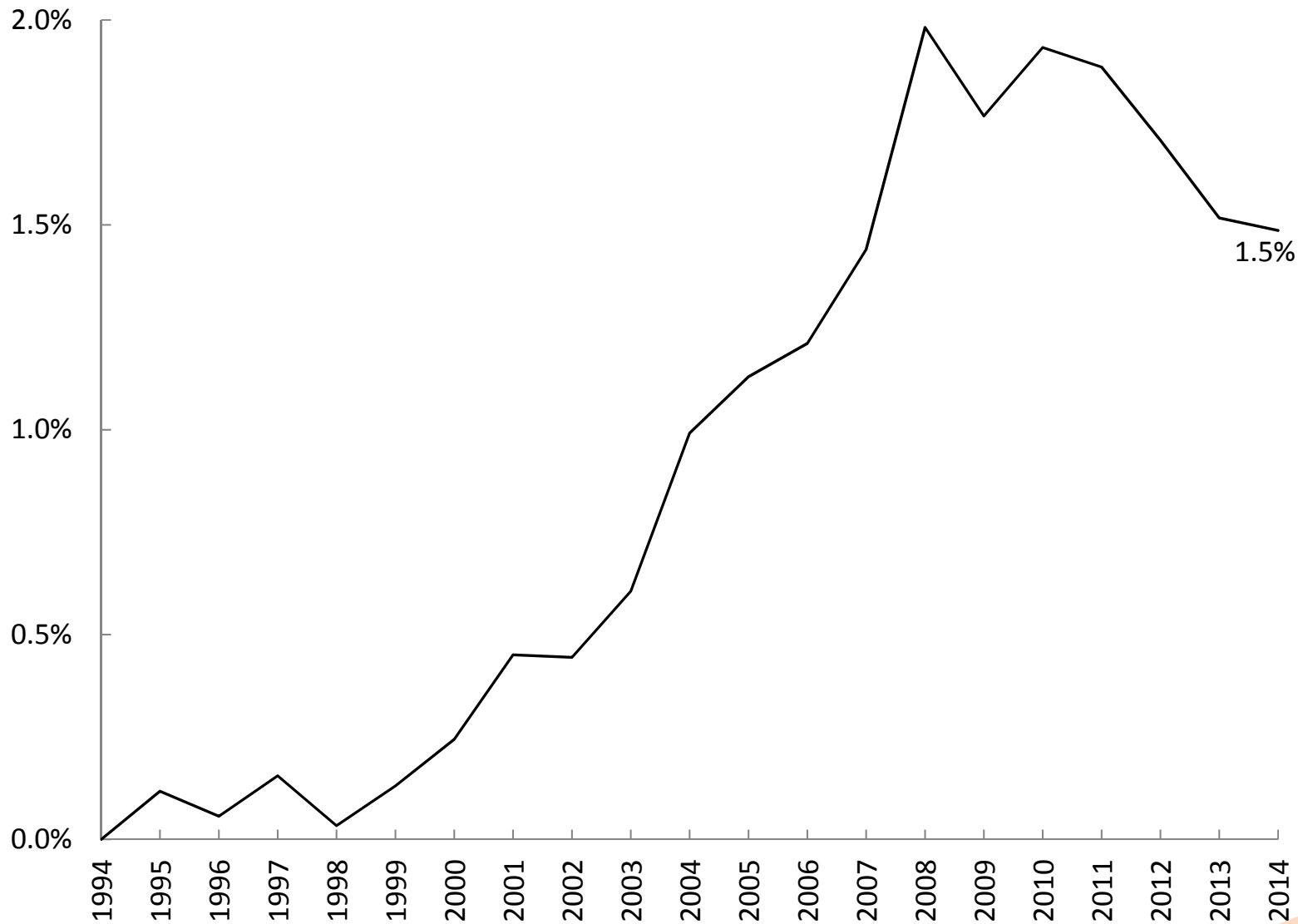
BRR: Level Changes in Key SNA Measures



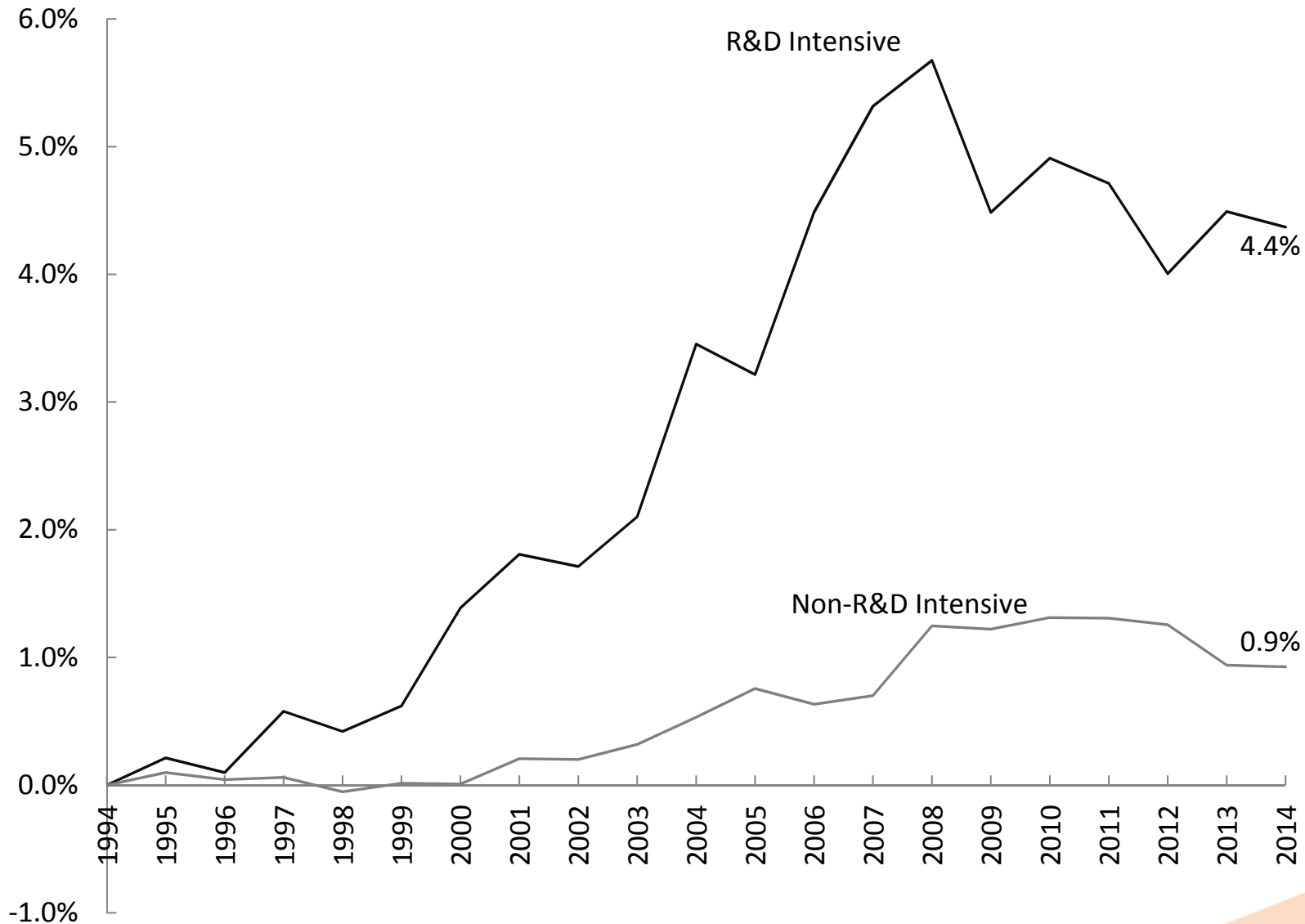
BRR: Level Changes in Key *BPM* Measures



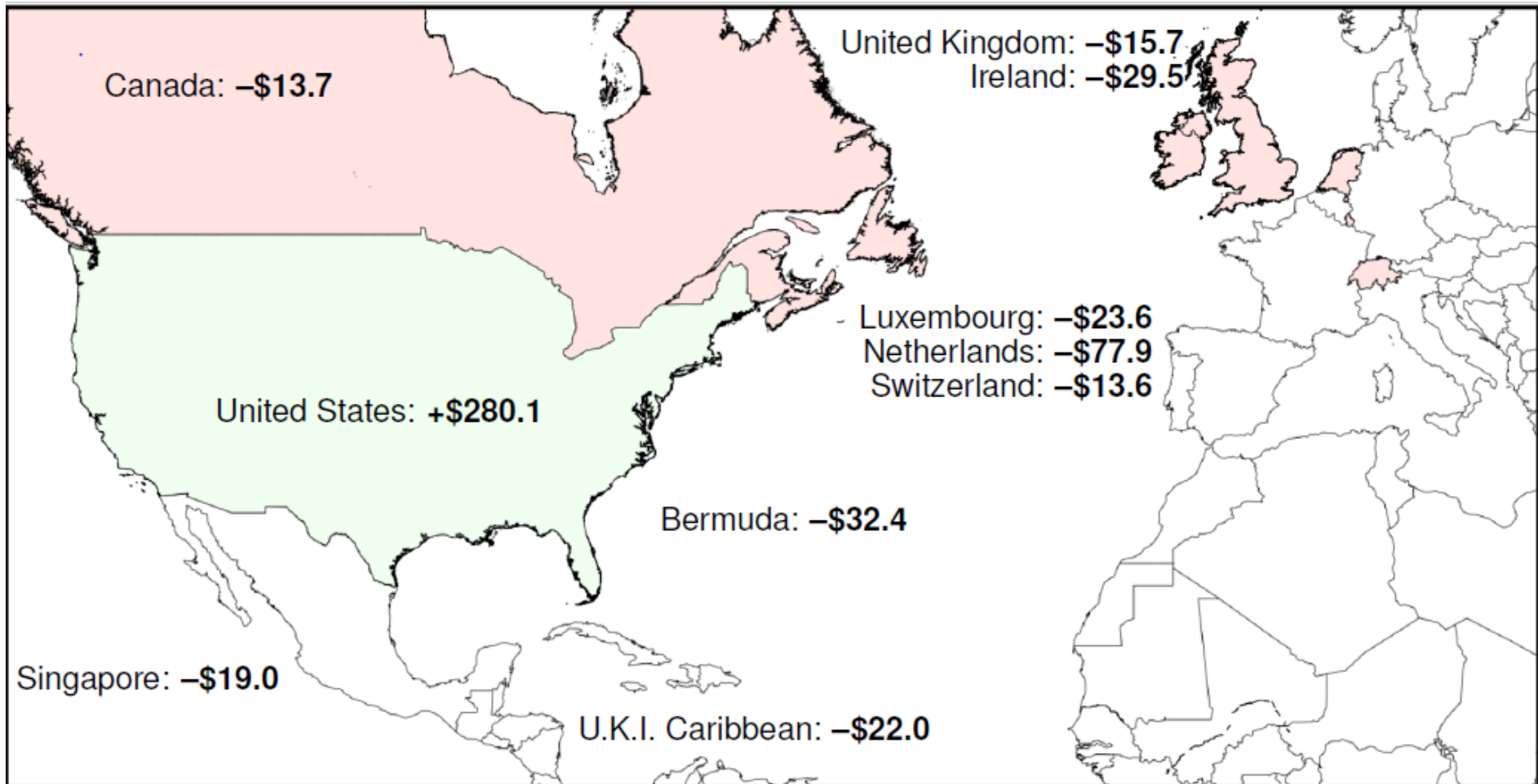
GMRR: Increase in Cumulative Labor Productivity Growth



GMRR: Increase in Cumulative Labor Productivity Growth by R&D Intensity



GMRR: Adjustments by Country (billions)



Conclusions



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 - No adjustments to secondary transactions
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 - U.S. AMNE data and Irish GDP and GNI
 - GMRR and BRR present implications for U.S. *SNA* and *BPM* aggregates
 - No adjustments to secondary transactions
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- Use prescriptive accounting rules with caution
 - Economic interpretation of guidelines is necessary
 - Is “economic relocation” of intangible capital possible within a firm?

Alternative Solutions to Consider



- Different treatment for SPEs and holding companies?
 - More granularity or reclassify to parent country? (Rassier 2017)
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- Highlight existing measures in current *SNA* framework?

References



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